NEW HAMPSHIRE

"We were excited to learn about the U.S. Fish and Wildlife Service's voluntary wetland restoration program for landowners called 'Partners for Fish and Wildlife.' We had wanted to bring back natural tidal flow to the creek that runs through our farm and restore about 10 acres of valuable saltmarsh habitat." **So writes Lorraine Stuart Merrill who, with husband John, owns the Stuart Farm in Stratham, New Hampshire.**

Introduction and General Description

New Hampshire has lost about 10 precent of its wetlands that were in existence at the time of European settlement. Of the approximately 6,000 acres of coastal saltmarsh remaining, about 1,000 acres are considered degraded by human activity. Riparian buffer zones along streams, wetlands and rivers have been eliminated due to "farming to the edge," and hedgerow habitat has been lost because of consolidation of small fields into larger ones.

Early in the last century nearly 80 percent of land cover was in non-wooded herbaceous habitat. Now, New Hampshire is almost 75 precent forested, resulting in loss of cover vital to grassland-dependent migratory birds. Non-native invasive plant species have spread rapidly into coastal and freshwater wetland habitats as well as upland habitats, replacing native species.

With a Little Help From Our Friends

Since 1990, the Partners for Fish and Wildlife Program in New Hampshire has worked with landowners, State agencies, many organizations and individuals to restore fish and wildlife habitat such as coastal wetlands, riparian habitats, grasslands and endangered species habitats. A recent multi-agency effort to remove unnecessary dams has given the program an additional opportunity to partner with others to restore instream anadromous fish habitat.

The Partners Program has partnered with The Nature Conservancy since 1995 to restore habitat for the federally endangered Karner Blue butterfly at the Concord pine barrens. Other efforts have focused on combatting invasive plant species on several Connecticut River islands that are home to rare plants such as the federally endangered Jesup's milkvetch. Restoring habitat for plants is accomplished by activities such as hand cutting, clearing, and digging out the invasive, non-native plants.

In partnership with the Natural Resources Conservation Service and the Rockingham County Conservation District, the Partners Program has helped to restore saltmarsh that has been adversely affected by restricted tidal flow, grid ditching for mosquito control and invasion by nuisance plant species.

By fencing livestock from streams and wetlands and planting vegetative buffer areas along the banks, the Partners Program has helped to restore important streambank areas, known as riparian habitats, and improve water quality in the

Saltmarsh restoration, Stuart Farm, Stratham, New Hampshire.
Photo: USFWS

This new culvert restored the hydrology of the Little River in Hampton, New Hampshire. ***USFWS photos.***

Connecticut River drainage and elsewhere in New Hampshire. Riparian areas provide habitat for migratory birds and filter pollutants before the pollutants enter streams and rivers.

Conservation Strategies

Coastal Saltmarsh

Coastal saltmarsh restoration projects have been completed in Greenland, Newmarket, Newington, Hampton, Rye and North Hampton, New Hampshire. Typical Partners Program costs run about $1,000 to $1,500 per acre of saltmarsh restored.

In 1990, the Partners Program, along with the New Hampshire Fish and Game Department and the Office of State Planning, Coastal Program, began the first saltmarsh restoration effort in the State in the coastal town of Rye.

From this beginning, the Partners Program has continued to help fund and promote an array of coastal saltmarsh restoration projects. Some of these projects include Integrated Marsh Management, which consists of restoring plugging ditches, removing fill material, controlling invasive plants and returning original hydrology to the saltmarsh.

Other types of restoration include removing undersized or plugged culverts and installing adequately sized culverts to allow full tidal flushing to saltmarshes impaired by road construction.

Grasslands and Invasive Species Control

The Partners Program has partnered with county conservation districts, private conservation groups such as The Nature Conservancy, and the Cooperative Wildlife Extension program at the University of New Hampshire to help restore vital grassland habitats through various techniques such as mowing, cutting and digging. The cost of grassland restoration ranges from $100 to $500 per acre.

Although the forests of New Hampshire were once logged and most of the State consisted of pastures and agricultural lands, much of the State has now reverted back to forest. The increase in forest habitat has resulted in a dramatic loss of grassland nesting migratory birds such as the bobolink and eastern meadowlark. Invasive plant species such as mutiflora rose have taken over many remaining grasslands. Other specialized habitats such as Connecticut River islands have been invaded by non-native nuisance species.

Riparian Restoration

Bioengineering techniques call for planting native vegetation along eroding streambanks to stabilize the soil and prevent further erosion and degradation of water quality and fish habitat. Bioengineering projects can cost up to $5 per foot of streambank protected.

In a partnership with the Carroll County Conservation District and students from the Josiah Bartlett Middle School, the Partners Program funded the planting of native willows along the Saco River in Conway to help protect eroding farmland and stop sedimentation into the river.

Partners

Natural Resources Conservation Service
Farm Service Agency
National Fish and Wildlife Foundation
Environmental Protection Agency
National Marine Fisheries Service
Army Corps of Engineers
Coastal America

New Hampshire Fish and Game Department
New Hampshire Office of State Planning, Coastal Program
New Hampshire Department of Environmental Services, Wetlands Bureau
University of New Hampshire, Cooperative Extension
University of New Hampshire, Extension Entomologist
Rockingham County Conservation District
Carroll County Conservation District
Strafford County Conservation District
Cheshire County Conservation District
Town of Rye
Town of Hampton
Town of North Hampton
Town of Newington
Town of Newmarket
Town of Greenland
The Nature Conservancy
Ducks Unlimited
Save Wetlands and Manage Pests

Accomplishments

- 120 acres of wetland habitat restored or improved.

- 100 acres of upland habitat restored.

- 3000 acres of beaver-created wetlands conserved and protected.

- More than 3 miles of riparian buffers restored.

- The Partners Program has worked with over two dozen partners, including Federal and State agencies, local governments and private organizations.

Future Needs

Dozens of tidal restrictions and wetlands in need of restoration have been identified through the restorable saltmarsh inventory completed by the Natural Resources Conservation Service. The inventory identified over 1100 acres of restorable wetlands in coastal New Hampshire. We will continue to partner with the Coastal Program and others to restore as many of these wetlands as possible.

There are over 100 miles of restorable streams and buffers in the State that are in need of livestock exclusion fencing and/or bioengineering to prevent soil loss and erosion.

Invasive species that impact over 500 acres of fish and wildlife habitat need to be controlled.

There are over 3500 dams in New Hampshire, many of which no longer serve a useful purpose and could be removed to restore native fish habitat.

Native grassland habitat could be restored on several thousand acres of old fields that are quickly reverting to second growth forest.

Students plant willow cuttings along the Saco River for bank stabilization in Conway, New Hampshire. ***Photo: USFWS***

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August 2001